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<p><b>(54) Title:</b> RADIATION APPLICATOR</p> <p><b>(57) Abstract</b></p> <p>Radiation applicators comprise an elongate device having an antenna (240, 340) at their tip for coupling radiation into biological tissue and a dielectric body (250, 350) surrounding the antenna so as to encompass substantially the whole of the near-field region of the antenna and/or to enhance transmission of radiation in the forward direction. The body (250, 350) may be cylindrical with the antenna (240, 340) along its axis. The antenna may be <math>\lambda/2</math> in length and <math>\lambda/2</math> in radius. The tip (270) of the antenna (240) may be rounded hemispherical with radius <math>\lambda/2</math> to enhance forward transmission of radiation. The dielectric constant (<math>\epsilon</math>) of the body (250, 350) is as high as possible to reduce its diameter at a desired operating frequency but may be matched to the surrounding tissue by another layer of dielectric material (380) with a value (<math>\epsilon</math>) intermediate that of the core (360) of the body (350) and the tissue.</p>			

